Wisconsin Urban & Community Forests

A Quarterly Newsletter of the Wisconsin Department of Natural Resources, Forestry Division

The Effects of Flooding on Plants

by Laura G. Jull, Associate Professor & Extension Specialist
Dept. of Horticulture, University of Wisconsin–Madison

Growing plants in wet, poorly drained soil can be quite difficult. To the extreme, very heavy rainfall followed by flooding can not only cause tremendous damage to buildings and homes, but also can kill woody and herbaceous plants, while other plants remain unaffected. The question is often raised, "How long can my plants tolerate their roots being submerged?" It would depend on the time of year the flood event occurs, duration of the flood event, species sensitivity to flooding, and type of soil the plants are growing in. Dormant plants are more tolerant than actively growing plants to flooding. Most plants can tolerate a couple of days of flooding during the growing season, but for some plants, a week or more of flooding can cause severe injury and death, particularly for sensitive tree and shrub species like: lindens, Norway and sugar maples, beech, northern red, white, and chinkapin oaks, hickories, black walnut, black locust, buckeyes, tuliptree, white-barked birches, American hophornbeam, Siberian elm, mulberry, yellowwood, cherries and plums, eastern redbud, magnolias, crabapples, mountainash, Washington hawthorn, lilacs, rhododendrons, privets, cotoneaster, spirea, euonymus, daphne, weigela, and evergreens like pines, Norway and Colorado blue spruces, Canadian hemlock, eastern red-cedar, Siberian cypress, yucca, and yews. Soil type is also an important factor to keep in mind with regard to drainage patterns. Sandy soil drains much faster than predominantly clay-based soils, which remain wet for longer durations.

Photo: Corey Secher, WDNR

June 2008 flooding at Devil's Lake State Park.

Are there differences in a plant's ability to tolerate flooding? Established, healthy trees and shrubs will be more tolerant to flooding than very old trees, stressed trees, or young trees and seedlings of the same species. Symptoms of plants under excessive water stress include yellowing or browning of leaves, leaf curling and pointing downward, leaf wilting, reduced new leaf size, early fall color, defoliation, branch dieback and in extreme cases, gradual plant decline and death over the next couple of years. There are plants that can

Continued on page 10

Your Response Is Needed

In an effort to be cost efficient and ensure we are reaching interested audiences, we are asking for your response. Please clip the following subscription form and return to:

Urban Forestry Newsletter-F/4, P.O. Box 7921, Madison, WI 53707-7921

or

Visit us at http://dnr.wi.gov/forestry/UF/resources/

Beginning with the fall 2008 issue, the newsletter will be mailed only to those who have responded. Thank you for your response!

❒ Yes—I would like to continue receiving the *Wisconsin Urban & Community Forests* newsletter

❒ Please remove my name from the mailing list.

Name _____

Address _____

City _____ State _____ Zip code _____

❒ I would like to receive the newsletter electronically. My e-mail address is:

_____

WISCONSIN DEPT. OF NATURAL RESOURCES

Volume 16 Number 1

Early Summer 2008

Inside this issue:

2

Community Profile:

Population: 14,129

Tree City USA: 12 years

Street Trees: >9000

Lane miles of streets: 80

Greenspace and woodland acres: 800

Home to Southridge Mall, the largest shopping mall in the state

Community Profile:

Village of Greendale

by Carl Tisonik, Director of Public Works
Village of Greendale

Located in southern Milwaukee County, the Village of Greendale is steeped in history and tradition. The land on which Greendale now stands—and indeed much of the southeastern portion of Milwaukee County—was once a thriving Indian village. A tribal burial ground was once located near the present location of village hall and a large stone dam was uncovered during construction of the sanitary sewer system in 1937. Public Works Director Carl Tisonik has a nice collection of arrowheads and stone-cutting tools that he found in and along Dale Creek near village hall while trapping minnows and crayfish in the 1950s and 1960s.

In 1836 Wisconsin became a territory and settlement of the area began. The area west of what is now Southridge Mall was particularly prized for the large stands of red and white oak, hickory and ash that stood there, as well as fertile meadows, several branches of the Root River and large deposits of easily quarried limestone. A wagon path that ran east to west eventually became Grange Avenue. The stands of mature trees would stoke the kilns used to burn limestone to manufacture lime, a key ingredient in cement and mortar. Several large limestone kilns have been preserved at Trimborn Farm in the 8800 block of West Grange Avenue. Along with the kilns stands one the finest stone barns remaining in the state as well as the boyhood home of Jeremiah Curtin, a famous Irish linguist best known for translating the novel *Quo Vadis* into English. The lime produced at Trimborn Farm enabled the expansion of a nearby small but growing city called Milwaukee!

Photo: Kim Sebastian, WDNR

Greendale Village Hall.

Greendale had its beginnings in 1936 when the US Department of Agriculture began constructing three Greenbelt communities. (The other two are Greenbelt, Maryland, and Greenhills, Ohio.) The Resettlement Administration's Greenbelt program had three main objectives:

1. Foster a type of community planning that would combine the advantages of city and country life.
2. Provide good housing at a reasonable cost.
3. Give thousands of unemployed workers employment opportunities that would result in lasting economic benefit to the area.

To achieve all of these goals the federal government purchased 3400 acres south of Milwaukee and laid out a greenbelt of parkland, green space, woodlands and farms circling an urban development designed with many features of an English country village. The original 572 living units were housed in 366 buildings, almost all being two stories and constructed of "cincrete" brick walls. Cincrete is a type of cinder block and has stood the test of time very well even though in the 1930s it was considered radically new technology.

After World War II, private developers began buying up farmland surrounding the original development and building subdivisions. All new neighborhoods kept the tradition of naming the street

Continued on page 12

Wisconsin Urban & Community Forests
A Quarterly Newsletter of the Wisconsin Department of Natural Resources, Forestry Division

Published quarterly by the Wisconsin Department of Natural Resources, Forestry Division.

Send your inquiries, address changes, or story ideas to Laura Wyatt, Laura.Wyatt@Wisconsin.gov (608-267-0568), or Dick Rideout, Richard.Rideout@Wisconsin.gov (608-267-0843).

Editors: Laura Wyatt and Dick Rideout
Contributors: Ian Brown, Cindy Casey, Kathy Gonzalez, Don Kissinger, Jeff Roe, Tracy Salisbury, Kim Sebastian, Candice Sovinski, Olivia Witthun and Al Zelaya

Articles, news items, photos and ideas are welcome.

This newsletter is available in alternative format upon request and can also be downloaded in PDF format from our Web site: http://dnr.wi.gov/forestry/UF/

For breaking UF news, anecdotes, announcements and networking opportunities, sign up for The Urban Forestry Insider, DNR's twice-monthly e-newsletter. Archives are at http://dnr.wi.gov/forestry/UF/resources/InsiderArchive.html

This newsletter is made possible in part by a grant from the United States Department of Agriculture Forest Service. The USDA prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. To file a complaint call (202) 720-5964.

PRINTED ON RECYCLED PAPER

Students Celebrate Arbor Day

adapted from an article by DNR Forest Resource Education & Awareness Specialist Genny Fannucchi and DNR Forestry Educator Tessa Jilot

The love of trees is as old as humankind. To keep this feeling alive, the Department of Natural Resources Division of Forestry challenges students from around the state to creatively express their feelings about our tree and forest resources through the National Arbor Day Poster Contest for fifth-grade students and the fourth grade Forest Appreciation Week Writing Contest. Over 3200 students from more than 200 Wisconsin schools entered these contests.

Sponsored by the National Arbor Day Foundation, this year's poster contest provided an opportunity for fifth-grade students to showcase their artistic talents around the science based theme, "Trees are Terrific . . . inside and out!" Entries were narrowed down by regional DNR staff, and to extend the awareness of Arbor Day, the top twelve posters were selected by a DNR department-wide vote in Madison. Members of the Natural Resources Board were invited to select the top three winners.

This year's poster contest winners are: Nathan Schwartz–West Bend, home schooled; Isabella Reichardt–Watertown, Webster Elementary School; and Hannah Glinski–Whitefish Bay, St. Monica School. View the winning posters on DNR's Environmental Education Web page, EEK!, at **http://dnr.wi.gov/org/caer/ce/eek/cool/arbordayposter.htm** .

"My Favorite Forest Animal" was the theme of this year's Forest Appreciation Week Writing Contest. Students shared their thoughts on the variety of animals found in our forests and how those animals have touched their lives. This year's winning entry focused on the fond memories the writer had watching a family of squirrels outside her bedroom window.

This year's essay winners are: Micaela Jobke–Clintonville, St. Martin Lutheran School; Josie Bacon–Minocqua, MHLT (Minocqua–Hazelhurst–Lake Tomahawk) Elementary School; and Skyler Richard Fisher–Hillsboro, Hillsboro Elementary School. Read the winning essays at **http://dnr.wi.gov/org/caer/ce/eek/cool/2008writingwin.htm**.

On Arbor Day the six winning students, their families and teachers were honored at a special achievement ceremony at the state capitol. The children's work was on display—the student authors read their essays, while the student artists shared their inspiration with all guests. Special guests included Wisconsin DNR Secretary Matt Frank, Chief State Forester Paul DeLong, Smokey Bear, Bucky Badger, songster Ken Lonnquist and students from Weyauwega Elementary.

Photo: WDNR

Nathan Schwartz, West Bend, shares the inspiration which guided his creation of the 1st place poster.

The top students received plaques and savings bonds, prizes donated by the Wisconsin Arborist Association (poster winners) and Wisconsin Woodland Owners Association (essay winners). In addition, the Wisconsin Arborist Association supplied a tree to each of the six student winners for planting at a local community site. Teachers of the six winning students were presented with scholarships for both a Project Learning Tree (PLT) and LEAF (Learning Experiences & Activities in Forestry) workshop and classroom supplies.

Preceding the indoor ceremony, a 15-foot red oak tree was planted on the capitol lawn. This public planting marks the 4th Arbor Day BIG Tree donated to Capitol Park by the Wisconsin Nursery Association, with spade planting donated by The Bruce Company of Wisconsin.

Photo: WDNR

Chief State Forester Paul DeLong welcomes Bucky Badger and Smokey Bear to the Arbor Day celebration at the state capitol.

4

Community Tree Profile:

Sargent cherry (*Prunus sargentii*)

by Laura G. Jull, Associate Professor & Extension Specialist
Dept. of Horticulture,University of Wisconsin–Madison

Photo: Edward Hasselkus, Professor Emeritus, UW–Madison

Sargent cherry

Native To: Japan, Korea and Sakhalin Island (off Russian coast)

Mature Height: 25–40'

Spread: 25–30'

Form: Oval to semi-vase shaped; low branching; medium texture

Growth Rate: Moderate

Foliage: Alternate, simple; elliptic to narrow obovate to oblong leaf shape, 3–5" long; long, acuminate tip; rounded to semi-heart-shaped leaf base; serrate margins; purplish to bronze new leaves in spring that later turn all green; two large glands on the petiole at the base of the leaf (many *Prunus* species have this characteristic).

Buds and Stems: Buds are alternate, imbricate, conical to ovoid, reddish to reddish brown, sharply pointed and clustered at the tips of branches. Stems are reddish brown, glabrous with lots of lenticels.

Fall Color: Bronzish to orangish red, showy

Flowers: Showy, terminal umbels (clusters) with 2–4 pink, 1¼- to 1½"-wide, non-fragrant flowers in clusters in early spring before the leaves appear; very pretty in flower, but flowers only last a week.

Fruit: Red, 1/3"-long, ovoid cherries produced in summer that change to purplish black when ripe. Edible, but tart, fruit attract wildlife, especially birds. The plant is not considered invasive and seeds are not spread by birds.

Photo: Edward Hasselkus

Sargent cherry

Bark: Smooth, polished reddish gray to chestnut-brown with lots of lenticels. Bark can become slightly exfoliating into large, thick plates.

Site Requirements: Full sun; adaptable to most soils and acid to slightly alkaline pH; however, intolerant to compacted, heavy clay, poorly drained soils. Roots prefer cool environments and the tree is not very heat tolerant; does better if planted in spring versus fall. Requires a moist, well-drained soil and good drainage, which is very important for most *Prunus* species; moderate salt and urban tolerance.

Hardiness Zone: 4b

Insect & Disease Problems: Not susceptible to black knot compared to our native *Prunus* species. Susceptible to Japanese beetle, borers if stressed, scale, eastern tent caterpillar and cankers. Prone to rabbit and vole injury at base of tree if left unprotected.

Suggested Applications: Sargent cherry, its cultivars and hybrid, make nice specimen, small- to medium-sized trees in the landscape. It can be used as a park, lawn or street tree in areas that are well drained. The flowers are very beautiful in April and the fruit attracts birds. The fall color is excellent and the smooth, polished bark adds to its winter interest. Sargent cherry and its hybrid 'Accolade' are the hardiest of the Japanese cherries. The upright cultivars are suited for narrow spaces near buildings or in terraces.

Limitations: Prone to included bark formation and narrow crotch angles, hence needs training and corrective pruning when young to improve branch spacing. Does better when dug and planted in spring. Thin bark can be easily damaged from lawn and weed removal equipment. Prone to girdling roots if planted too deeply. Short-lived tree in the landscape due to included bark formation and storm damage. Casts dense shade, hence is hard to grow grass beneath the tree.

Comments: Sargent cherry's attractive flowers, fruit that attracts wildlife, fall color and bark provide for multi-seasonal interest in the landscape. The oval to vase-shaped form and small to medium size allow its use in residential landscaping. The hybrid 'Accolade' is also a very nice tree that produces no fruit.

Common Cultivars or Selections:

'Columnaris': narrow, upright, columnar form to narrow, vase-shaped form with upright branches; 25–30' tall; 15' wide; single, pink flowers in clusters in April; reddish orange fall color; showy bark

'JFS-KW58'–Pink Flair®: upright, narrow, vase-shaped form; 25' tall; 15' wide; single, pink flowers; orange-red fall color

Rancho®: narrow, upright form; narrower than 'Columnaris'; 20–25' tall; 10–12' wide; dark pink flowers

'Accolade' (hybrid of *Prunus sargentii* × *Prunus subhirtella*): upright, open, vase-shaped form; 20' tall; 15' wide; dark green leaves; semi-double, 1½" wide, light pink flowers in early spring are produced on long stems; no fruit, as flowers are sterile; bright yellow-orange fall color; very nice small tree that is hardy to zone 4b

Continued on page 12

Wisconsin Arbor Day Photo Album

Photo: Marie M. Bannink, New Richmond urban forestry board.

New Richmond Mayor David Schnitzler plants a tree in Mary Park with assistance of area 4th graders.

Photo: Kim Sebastian, WDNR

A young boy from Greendale adopts a serviceberry at the Boerner Botanical Garden/Wehr Nature Center event – In Celebration of Trees.

Photo: Jeff Roe, WDNR

Two area high school students assist a student intern during Arbor Day activities at the Aldo Leopold Nature Center in Monona.

Photo: Meredith Kimberlin, City of Superior

Mayor Dave Ross of Superior (left) and WDNR Secretary Matt Frank (center) thank representatives of SEH, Inc. for their generous gift of 52 street trees to the City of Superior.

Photo: Village of Denmark

Northeast Regional Urban Forestry Assistant Olivia Witthun and Village of Denmark forestry staff conduct a tree planting demonstration.

Students from Mid-State Technical College assist North Central Regional Urban Forestry Coordinator Don Kissinger plant a tree donated by Schalows Nursery at the Tiny Tiger Intergenerational Center in Marshfield.

Photo: City of Marshfield

Photo: Al Zelaya, WDNR

Members of the Oconomowoc Junior Women's Club and their children plant a tree in Fowler Park in celebration of Arbor Day.

for more photos visit
http://dnr.wi.gov/forestry/UF/awareness/

6

Certification Profile:

Urban & Community Forestry Program Accreditation

by Cindy Casey, Urban Forestry Coordinator
DNR West Central Region

With public programs and services increasingly scrutinized due to ever-tightening budgets, it's particularly important for municipal forestry programs to demonstrate excellence to residents and local elected officials. The Society of Municipal Arborists' recently overhauled accreditation program is the gold standard for urban and community forestry. Not just another recognition program, this one exists to promote and recognize topnotch urban forestry programs—those meeting the highest performance and safety standards. To date, approximately 30 municipal forestry programs across the United States have met the new accreditation standard.

The new, streamlined accreditation program emphasizes not only technical excellence but partnering, which is reinforced through linkages with other organizations' programs. For example, SMA links to National Arbor Day Foundation's Tree City USA program, with municipalities automatically earning a Growth Award upon accreditation. This particular partnership works both ways—to be accredited, a municipality has to maintain annual Tree City certification and have received a Growth Award at least once during the previous five years. Similarly, SMA maintains a partnership with Tree Care Industry Association through an accreditation requirement to give contract preference to TCIA accredited tree care firms. SMA is also exploring potential linkage between its accreditation program and that of the American Public Works Association.

Are you wondering if your municipal forestry program meets SMA accreditation standards? You must have:

1. at least one ISA certified Municipal Specialist on staff
2. a qualifying forest master plan, approved by the appropriate local body (see **www.urban-forestry.com** for specifics)
3. Tree City USA certification, maintained throughout the five-year accreditation period
4. at least one TCUSA Growth Award in the past five years
5. preference for TCIA accredited tree care companies when contracting for arborist services
6. adoption and application of ANSI Z133.1 safety standards
7. adoption and application of ANSI A300 tree care technical standards
8. adoption of and adherence to the SMA code of ethics and objectives

There is a $300 application fee which helps cover costs of the accreditation program. Applications undergo a thorough 60-day review. Upon acceptance, accreditation is good for five years, provided the community maintains Tree City USA certification. The accreditation program is reviewed annually to update standards or procedures, as necessary. SMA's website contains more information, including downloadable application forms and instructions, and program announcements; visit **www.urban-forestry.com**.

Editors note: This article is the second in a series that describes the myriad of programs that certify skills for individuals, accredit organizations and register or license professionals. They all are designed to set standards for professional management of the urban forest. Visit **www.dnr.state.wi.us/forestry/UF/resources/UFnwsltrIndex.pdf** *for an index of previous articles.*

What Damaged This Tree?

Photo: Jeff Roe, WDNR

Turn to page 15 to find out…

A Celebration of Community Forestry

by Laura Wyatt, Urban Forestry Communications Specialist
DNR Division of Forestry

Congratulations to Wisconsin's newest Tree City USA designees: Baldwin, Town of Dunn, New Richmond, Owen, Platteville, River Falls and Viola! With these additions Wisconsin ranks third in the nation with 173 Tree City USA communities. The group includes seven new Tree Cities and 21 recertifying Tree Cities that received a Growth Award for going above and beyond the Tree City USA program standards.

To be recognized as a Tree City USA, a community must meet four requirements. It must have 1) a designated tree board or forestry department, 2) an annual forestry program expenditure of at least $2 per capita, 3) a tree ordinance and 4) observe and proclaim Arbor Day.

Twelve utilities with Wisconsin service areas received Tree Line USA recognition in 2007. To be recognized as a Tree Line USA, a utility must meet three requirements. It must 1) provide quality tree care that follows national tree care and protection standards, 2) provide annual worker training and 3) sponsor ongoing tree planting and public education.

The Tree City USA program, sponsored by the National Arbor Day Foundation and administered in Wisconsin by the DNR, provides communities with a tangible goal and national recognition for their community forestry efforts.

Congratulations to Wisconsin's 2007 Tree City USA recipients:

Adams
Albany
Algoma*
Allouez
Amherst*
Antigo
Appleton*
Ashland
Ashwaubenon
Baldwin
Baraboo
Bayfield
Beaver Dam
Bellevue
Beloit
Bloomer
Blue Mounds
Brillion
Brookfield*
Brown Deer
Campbellsport
Cedarburg
Chenequa
Chilton*
Chippewa Falls
Clinton*
Clintonville
Combined Locks
Cottage Grove
Cudahy
De Pere*
DeForest *
Delafield
Delavan
Denmark
Dresser
Dunn, Town
Eau Claire
Edgar
Elkhart Lake
Elkhorn
Elm Grove
Evansville
Fitchburg*
Fond du Lac*
Fontana
Fort Atkinson*
Fort McCoy
Fox Point
Franklin
Fredonia
Fremont
Germantown
Gilman
Glendale
Grafton
Grand Chute, Town*
Green Bay
Greendale
Greenfield*
Greenville, Town (Outagamie) *
Hales Corners
Hartford
Hillsboro
Hobart
Horicon
Howard*
Jackson
Janesville*
Jefferson
Johnson Creek
Kaukauna
Kenosha
Kewaunee
Kimberly
La Crosse
Lake Geneva
Lake Mills
Lawrence, Town (Brown)
Little Chute*
Lodi
Madison, City*
Madison, Town (Dane)
Manitowoc
Maple Bluff
Marinette*
Marion*
Marshall
Marshfield*
Mayville
Medford
Menasha
Menasha, Town (Winnebago)
Menomonee Falls
Menomonie
Mequon
Merrill
Middleton
Milwaukee
Mineral Point
Monona
Monroe
Monticello
Mount Horeb
Muskego
Neenah
New Berlin
New Glarus
New Holstein
New London*
New Richmond
North Fond du Lac
Oak Creek
Oakfield
Oconomowoc
Oconto
Onalaska
Oshkosh
Owen
Paddock Lake
Phillips
Platteville
Plover
Plymouth
Port Washington
Portage
Pound
Rice Lake
Richland Center *
Ripon
River Falls
Rosendale
Rothschild
Saukville
Shawano
Sheboygan
Sherwood
Shorewood
Shorewood Hills
Spooner
Stevens Point
Stoughton*
Sturgeon Bay
Sun Prairie*
Superior
Thorp
Tomahawk
Turtle Lake
Two Rivers
Valders
Verona
Viola
Washburn
Waterford, Town (Racine)
Waterford, Village
Waterloo
Watertown
Waukesha
Waunakee
Waupaca
Waupun*
Wausau
Wautoma
Wauwatosa
Wescott, Town (Shawano)
West Allis
West Bend*
Weyauwega
Whitefish Bay
Whitewater *
Whiting *
Williams Bay
Wisconsin Rapids

note: asterisk (*) indicates Growth Award recipient
bold text indicates new Tree City

City of Owen tree board receives their first Tree City USA flag—tree board members June Roohr, Bernie Shelton, Darlene Zukowski, Brad Gokey, Cindy Cardinal, DNR Urban Forester Cindy Casey, Mayor Swiggum

7

TREE CITY USA

TREE LINE USA

Tree Line USA 2007

Alliant Energy
East Central Energy
Hartford Electric
Madison Gas & Electric
Marshfield Utilities
Pierce Pepin Cooperative
Richland Electric Co-op
Shawano Municipal Utility
Stoughton Utilities
Vernon Electric
WE Energies
WI Public Service Corp.
Xcel Energy

To learn how your community can become a Tree City USA, contact your DNR regional urban forestry coordinator (refer to contact information on the back cover of the newsletter) or visit the DNR Web site at http://dnr.wi.gov/forestry/UF/awareness/.

8

Urban Tree Health Matters:

Canker Rot on Birch

by Kyoko Scanlon, Plant Pest & Disease Specialist
WDNR Division of Forestry

Photo: Kyoko Scanlon, WDNR

Canker rot on birch

Birch is a popular urban tree due mainly to its unique bark characteristic. Bright white bark of paper birch (also called white birch or canoe birch) makes this tree stand out in the landscape. However, occasionally you may find an ugly black mass on the smooth stem surface of a birch tree. The mass is hard, dry and cracked. It may look as if part of the stem was burned by a torch, or is an abnormal tree growth. This abnormality is not part of the tree but a conk produced by a fungus.

The fungus that produces the black conk on birch is a canker-rot fungus called *Inonotus obliquus*. Its conk is commonly seen on paper birch and yellow birch, but it can be found on other species of birch, and in somewhat rare occasions on other tree species, such as beech and ironwood. The conk could be over one foot across in size. Inside the black mass are reddish brown, softer tissues. An infected stem is often swollen around the conk. Unlike many other conks and mushrooms, this cinder-like conk does not produce any spores that would start a new infection. Spore-forming structures are developed adjacent to the conk only after the tree is killed. Although the conk is not edible, it has been used for medicinal purposes.

The fungus enters the tree through cankers, branch stubs, wounds and cracks. It extends tubular filaments (hyphae) into the inner bark and cambium to kill them. Repeated attacks by this fungus create an extensive column of decay inside the tree.

Canker-rot fungi are considered more aggressive than many other decay fungi as they are capable of breaking a layer created by a tree to compartmentalize the damage. This unique ability to break into newly formed wood allows decay to spread despite a tree's efforts to compartmentalize decay. Other canker-rot fungi commonly found in Wisconsin include *Phellinus tremulae* on aspen, *Phellinus pini* on conifers, *Phellinus everhartii* on oaks and *Cerrena unicolor* on hardwoods.

Unfortunately, there is no effective control to stop the spread of decay caused by the fungi once established within a tree. A tree with a conk may still have a full crown and appear healthy. However, the presence of a conk indicates that inner wood is decayed, and the decay may be extensive. Assessment of wood decay would be needed if a tree with a conk caused by *Inonotus obliquus* poses a risk of damaging a structure or injuring people upon failure.

Coming Events:

July 17, 2008–*ACT Brown Bag Lunch webcast, "Trees and Transportation,"* noon–1:00PM. Visit http://actrees.org/.

July 26–30, 2008–*84th Annual ISA Conference & Trade Show*, America's Center Convention Complex, St. Louis, MO. Visit www.isa-arbor.com.

July 26–30, 2008–*American Phytopathological Society annual meeting*, Minneapolis Convention Center, Minneapolis, MN. Contact the American Phytopathological Society, 651-454-7250 or www.apsnet.org/meetings/calendar.asp.

August 7, 2008–*The Urban Forest—Preserve and Protect*, American Public Works Association "Click, Listen & Learn" program. Visit www.apwa.net/events/.

August 12, 2008–*Tree Dissection Clinic*, Slatterly Park, Rochester, MN. Contact Jacob Ryg, 507-328-2515.

August 17–20, 2008–*International Public Works Congress & Exposition*, New Orleans Convention Center, New Orleans, LA. Visit www.apwa.net/Meetings/Congress/2008/attendee/about.asp.

August 21, 2008–*ACT Brown Bag Lunch webcast, "Special Event Fundraising,"* noon–1:00PM. Visit http://actrees.org/.

September 18, 2008–*ACT Brown Bag Lunch webcast, "Urban Forestry Partnerships in Education,"* noon–1:00PM. Visit http://actrees.org/.

September 26, 2008–*"Invasive Woody Plants" Brown Bag Program*, noon–1:00PM. Contact your UW–County Extension office.

October 6–8, 2008–*Landscape below Ground conference*, Morton Arboretum, Lisle, IL. Visit www.landscapebelowground.org/.

Urban Forest Insect Pests:

Eastern Spruce Gall Adelgid

9

by Linda Williams, Forest Health Specialist
DNR Northeast Region

Have you ever noticed small pineapple-shaped structures growing near the base of new shoots on your spruce trees? Many people assume these are small cones but they are actually a gall, formed by the tree in response to feeding by eastern spruce gall adelgid. Old galls remain on the tree for many years. Severe infestations or infestations that occur over many years can weaken the tree although they rarely kill the tree. Weakened trees may be attacked by other insects or diseases.

The life cycle of an adelgid is somewhat complicated but they do complete one generation per year. They overwinter as wingless, immature females. When spring arrives they become mature, lay eggs, and tiny nymphs emerge from the eggs and begin feeding at the base of needles where the gall will eventually form. As fall arrives the gall will dry out, turn brown and open to release the mature nymphs which mature into a winged female which lays eggs and the cycle starts over.

Spruce have a wide range of susceptibility to this insect, both between species and within species. Some spruces, such as black, red or Engelmann, are generally less susceptible to eastern spruce gall adelgid. Norway spruce and white spruce are considered susceptible to this insect but some cultivars are less susceptible and even certain trees within each species will be less susceptible than their neighboring tree may be. When you purchase spruce be sure look for the galls and don't purchase galled trees as they may be more susceptible to this insect and will remain that way throughout their life.

If you've already planted your tree, or it's a mature tree that you're concerned about, you can manually remove the galls before August or you can use a pesticide. Dormant oil sprays can be applied in October and November or in the spring before the buds have doubled their winter size. You could also spray with an insecticide in September or October to kill the overwintering females. Insecticides targeting the maturing females can also be applied in early spring before the bud sheaths fall off. Another insecticide option would be to use a systemic insecticide which will kill any insects that feed on the tree for one year from the time of treatment; this option is less time sensitive than other pesticide options.

Photo: Mike Schuessler, WDNR

Green pineapple-shaped swellings on the branches of spruce indicates an infestation by eastern spruce gall adelgid.

Remember, if your tree is severely infested now, it is probably quite susceptible to eastern spruce gall adelgid and will probably be quite susceptible for the rest of its life. If the galls don't seem to be impairing the growth of the tree and they don't bother you, you can leave the tree alone, but if the insects are causing severe problems now they may continue to plague the tree for most of its life.

October 12–15, 2008–*SMA conference & trade show, "The Future of Urban Forestry—It's More than Trees,"* Marriott San Diego Mission Valley, San Diego, CA. Visit www.urban-forestry.com/mc/page.do.

October 16, 2008–*ACT Brown Bag Lunch webcast, "Marketing & Communications, Part I: Marketing 101,"* noon–1:00PM. Visit http://actrees.org/.

November 4–5, 2008–*Illinois Arborist Association 26th Annual Conference and Trade Show*, Holiday Inn, Tinley Park, IL. Contact the Illinois Arborist Association, 877-617-8887 or www.illinoisarborist.org/calendar.htm.

November 4–7, 2008–*Wisconsin Park and Recreation Association annual conference and trade show*, La Crosse Convention Center, La Crosse, WI. Visit www.wpraweb.org/.

November 12–15, 2008–*2008 TCI Expo*, Milwaukee, WI. Visit www.tcia.org/index.aspx.

November 18–20, 2008–*Partners in Community Forestry National Conference*, Atlanta, GA. Contact the National Arbor Day Foundation, 402-474-5655, www.arborday.org or conferences@arborday.org.

November 20, 2008–*ACT Brown Bag Lunch webcast, "Marketing & Communications, Part II: Strategy & PR,"* noon–1:00PM. Visit http://actrees.org/.

December 18, 2008–*ACT Brown Bag Lunch webcast*, *"Marketing & Communications, Part III: Building & Positioning Your Brand,"* noon–1:00PM. Visit http://actrees.org/.

December 19, 2008–*"Pruning Shrubs for a Reason" Brown Bag Program*, noon–1:00PM. Contact your UW–County Extension office.

If there is a meeting, conference, workshop or other event you would like listed here, please contact Cindy Casey. Please see back cover for contact information.

Effects of Flooding on Plants, *continued from page 1*

recover from flooding injury in as little as one growing season while others do not recover at all. However, these stressed trees are more susceptible to secondary organisms such as cankers fungi and wood boring insects. Trees that had a substantial amount of root injury and death are more subject to wind throw and should be monitored closely or removed entirely.

What causes plants to die in water-soaked soils? Besides the obvious killing of submerged branches and foliage, many plants are intolerant to having their roots submerged for long periods of time. Excessive moisture in the soil causes oxygen levels in the soil to decrease, impeding proper root respiration. As a result, carbon dioxide, methane, hydrogen and nitrogen gas levels around the roots increase sharply, thus, roots can suffocate and die. Toxic compounds, such as ethanol and hydrogen sulfide, as well as numerous other harmful compounds, can build up in saturated soils. Photosynthesis is inhibited and growth slows or even stops. Excessively wet soils also favor soil-borne, root and crown rot organisms including *Fusarium* spp., *Phytophthora* spp., Pythium spp., and *Rhizoctonia solani*. These organisms have wide host ranges and prefer wet soil conditions. Even when standing water is not present, poorly drained soil can reduce plant growth and long-term survival in the landscape.

Another thing to be concerned about is the deposition of excess soil and rocks over tree roots following floodwater recession. Excess soil greater than 3" may impede oxygen transport from the atmosphere to tree and shrub roots, especially on smaller-growing plants. This excess sediment should be removed after the water recedes. In contrast, tree roots may also become exposed due to soil erosion following flooding. These roots should be covered with soil to prevent drying out and damage of exposed roots. Improving drainage and aeration is critical to prevent future root injury. Finally, tree fertilization is not a cure for root injury and can make the problem worse.

Photo: Chris Widstrand, WDNR

Floodwater fills soil pore spaces, cutting off oxygen to tree roots. Most trees killed by flooding die from oxygen deficiency in the soil.

Photo: Chris Widstrand, WDNR

Flooding can cause soil around the base of a tree to be washed away, exposing tree roots. Exposed roots not only lead to generalized tree stress, they can make the tree more vulnerable to toppling.

How can I alleviate poorly drained soils in the future? If possible, avoid planting in areas that drain slowly after rain or are flooded consistently after a very heavy rainfall. The next step is to improve the site's drainage. Addition of loose organic material, such as composted leaves, pine bark, and peat moss can improve porosity in the soil. Plant on raised beds or berms, install swales, waterways, and drain tiles to divert excess water away from trees and shrubs. Finally, plant health care is an important step to reduce further plant decline. Remove dead or diseased branches, water plants during extended droughts, aerate the soil around the tree's roots, and properly mulch trees with no more than 3–4" of shredded bark, avoiding mulch from touching the bark on the trunk and branches, all key to improving plant vigor.

If your soil is subject to standing water after a heavy rainfall, it is best to plant species that are tolerant to wet soils. Bottomland plants—plants that naturally grow in lowland areas along riverbanks subject to fluctuating water tables—are able to tolerate wet soils better than upland species that grow at higher elevations. Also, different plants tolerate different degrees of wetness. Is your area permanently wet, somewhat wet, or wet for only a few days at a time? Roots need oxygen for growth and respiration and the longer the roots stay submerged, the more difficult it is for the plant to survive. The list below is wet soil tolerant woody species. Some species are known to tolerate extended periods of flooded conditions and are indicated with an * on the next page.

Plants Tolerant to Wet Soil

Trees
Acer negundo: boxelder
Acer rubrum: red maple
Acer saccharinum: silver maple
Acer × freemanii: Freeman maple
Alnus glutinosa: European black alder
Betula nigra: river birch
*Carpinus caroliniana: musclewood
Catalpa speciosa: northern catalpa
Celtis occidentalis: common hackberry
Fraxinus nigra: black ash
Fraxinus pennsylvanica: green ash
Fraxinus mandshurica: Manchurian ash
*Gleditsia triacanthos var. inermis: thornless honeylocust
*Gymnocladus dioica: Kentucky coffeetree
Larix laricina: tamarack, American larch
Liquidambar styraciflua: sweet gum
Maclura pomifera: osage-orange, Bois-D'arc
Metasequoia glyptostroboides: dawn redwood
Nyssa sylvatica: black gum, sour gum, tupelo
Platanus occidentalis: American sycamore
Platanus × acerifolia: London planetree
Populus deltoides: eastern cottonwood
Quercus bicolor: swamp white oak
Quercus palustris: pin oak
Salix spp.: willows
Taxodium distichum: baldcypress
*Ulmus americana: American elm

Narrow-leaved Evergreens
Abies balsamea: balsam fir
Chamaecyparis thyoides: Atlantic white-cedar
*Picea glauca: white spruce
Picea mariana: black spruce
*Thuja occidentalis: eastern or northern white-cedar

Shrubs
Alnus incana subsp. rugosa: speckled or swamp alder
Andromeda polifolia: bog rosemary
Aronia arbutifolia: red chokeberry
Aronia melanocarpa: black chokeberry
Aronia × prunifolia: purple chokeberry
Cephalanthus occidentalis: buttonbush
Chamaedaphne calyculata: leatherleaf
Clethra alnifolia: summersweet clethra
Cornus alba: Tatarian dogwood
Cornus amomum: silky dogwood
Cornus racemosa: gray dogwood
Cornus sanguinea: bloodtwig dogwood
Cornus stolonifera: red twig dogwood
Dirca palustris: leatherwood
Hamamelis vernalis: vernal witchhazel
Ilex verticillata: winterberry, Michigan holly
Itea virginica: Virginia sweetspire
Kalmia polifolia: bog kalmia
Ledum groenlandicum: Labrador tea
Lindera benzoin: spicebush
*Rhododendron arborescens: sweet or smooth azalea
*Rhododendron vaseyi: pinkshell azalea
Rhododendron viscosum: swamp azalea
*Rosa blanda: meadow rose
*Rosa carolina: Carolina or pasture rose
Rosa palustris: swamp rose
Salix spp.: willows
Sambucus canadensis: American elderberry
Sambucus nigra: European elderberry
Spiraea alba: meadowsweet
Spiraea tomentosa: hardhack, steeplebush
Staphylea trifolia: American bladdernut
*Vaccinium corymbosum: highbush blueberry
Vaccinium macrocarpon: American cranberry
Viburnum cassinoides: witherod viburnum
*Viburnum lentago: nannyberry viburnum
Viburnum opulus: European cranberrybush viburnum
Viburnum trilobum: American cranberrybush viburnum
Vitis riparia: riverbank or frost grape
Xanthorhiza simplicissima: yellowroot

*Tolerates periodic flooding only

2009 Wisconsin DNR Urban Forestry Grants

by Candice Sovinski, Urban Forestry Grant Manager
DNR Division of Forestry

Each year the Wisconsin Department of Natural Resources offers financial assistance for urban forestry projects that improve a community's capacity to manage its trees. Grant funds are available to support tree inventory and assessments, management plans, urban forest restoration projects, staff training, public education and other urban forestry efforts.

Eligible applicants are cities, villages, towns, counties, tribal governments, and 501(c)(3) nonprofit organizations; joint applicants are encouraged to apply. The grant program supports projects that advance a community's urban forestry management program. Wisconsin's urban forestry grant program is a 50-50 cost-share program with grant awards ranging from $1000 to $25,000.

Projects must relate to urban forestry and past projects have supported successful partnerships as well as countless hours from volunteers, consultants and dedicated urban forestry professionals. Grant recipients use the funds to advance their urban forestry management programs and, in turn, enhance the state's urban forests.

New for 2009 is a simplified grant application for communities that want to start a program or restart a program they once had. The startup grant application is targeted for small projects that encourage initial tree management. Projects are limited to a few project types and have a maximum grant award of $5000. The startup grant is in addition to the regular urban forestry grant and is the first of several planned changes to the grant program.

Communities are encouraged to submit a 2009 Intent to Apply form available online at: **http://dnr.wi.gov/forestry/UF/grants/** or contact their regional urban forestry coordinator. For a list of the regional urban forest coordinators refer to page 16. Completing and returning an Intent to Apply form ensures that you will receive an application for the 2009 grant cycle. Applications for the urban forestry grant program will be available online in early August and applicants have until October 6, 2008, to apply.

To learn more about the grant program visit **http://dnr.wi.gov/forestry/UF/grants/** or contact Candice Sovinski, Urban Forestry Grants Coordinator, Wisconsin Department of Natural Resources by e-mail, **candice.sovinski@wisconsin.gov**, or by phone, 608-267-3775.

Village of Greendale, *contined from page 2*

beginning with the same letter and today, when asked where they live, most Greendalers will answer "the A section" or "the T section." All new residential areas were required to follow the English garden concept of winding streets and cul-de-sacs (to keep traffic speed slow), greenspace separation of neighborhoods and an extensive, interconnecting sidewalk system.

The Village of Greendale is now built out with over 4600 single-family residences, and several hundred townhouse and apartment units. The village hall, located at the north end of Broad Street, still presides over an area of quaint shops, restaurants and historic buildings at the village center. A variety of community events use Broad Street as their focal point, with Village Days offering an old-fashioned community celebration on the second weekend of August every year. A major part of the charm of the village is the generous helping of natural woodlands, greenspaces and tree lined streets. The Department of Public Works oversees the planning, planting and maintenance of all forestry assets. Prior to 1978 residents were allowed to plant trees on village right-of-way along the street. Then Public Works Director Dave Multhauf and Forester Robert Ziarek devised a 20-year plan to plant a street tree in front of each property in the village as well as lining each main street with trees at regular intervals. The results have been well received by residents and many of these trees are now maturing nicely.

The Greendale Forestry Department has been led by Forester Robert Ziarek for more than 30 years. Over $213,000 has been budgeted in 2008 for forestry-related salaries, benefits, equipment, fuel and tree replacement. In 2007 the department planted more than 100 replacement street trees and completed the pruning of almost 2000 trees. Removals are done as needed and all street trees were inventoried in 2007, funded in part by a Wisconsin Department of Natural Resources Urban Forestry grant. The GIS based street tree inventory will allow us to better track the overall health of our urban forest as well as aid in planning for potential disasters such as EAB.

In May of each year the Department of Public Works sponsors our Arbor Day event called Clean and Green Day. Resident volunteers, community service groups, scout groups and even the Greendale High School football team spend a morning planting trees and perennials, picking up litter and performing general stream bank maintenance along the banks of Dale Creek.

The Forestry Department is committed to the maintenance, preservation and development of forest resources within our community so that all present and future residents and visitors will be able to enjoy the small-town charm that is Greendale.

Sargent Cherry, *continued from page 4*

References:

Landscape Plants for Eastern North America, 2nd ed., 1997, by Harrison L. Flint, John Wiley and Sons, Inc., New York.

Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses, 5th ed. 1998, by Michael A. Dirr, Stipes Publishing, Champaign, IL.

North American Landscape Trees, 1996, by Arthur Lee Jacobson, Ten Speed Press, Berkeley, CA.

Plants That Merit Attention: Vol. 1-Trees, 1984, by The Garden Club of America, Janet Meakin Poor (Ed.), Timber Press, Portland, OR.

Street Tree Factsheets, 1993, by Henry D. Gerhold, Norman L. Lacasse, and Willet N. Wandell (Eds.), Penn State University, University Park, PA.

The Right Tree Handbook, 1991, by Harold Pellett, Nancy Rose, and Mervin Eisel; University of Minnesota, St. Paul, MN.

Trees for Urban and Suburban Landscapes, 1997, by Edward F. Gilman, Delmar Publishers, Albany, NY.

Urban Forestry Staff Changes

Al Zelaya, former Southeast Regional Urban Forestry Coordinator, has accepted a position with The Davey Institute's Environmental Strategies Group. His initial responsibilities will be to support and advance the i-Tree Cooperative Program which provides communities with free tools to quantify and manage the structure, function and value of community trees. Many folks have heard of these tools, few have used them. Once settled in, Al will share his new contact information with Southeast Regional Urban Forestry Coordinator, Kim Sebastian, **Kim.Sebastian@Wisconsin.gov**. Al extends an open invitation for folks to contact him in the future.

EAB Toolkit for Wisconsin Communities Updated

The *Emerald Ash Borer Toolkit for Wisconsin Communities* has been updated. For the latest version or to review the items that have been revised and/or added visit the DNR urban forestry Web page at **http://dnr.wi.gov/forestry/uf/eab/**. Scroll to browse and select view "individual electronic toolkit files."

For breaking urban forestry news and announcements … apply for your free subscription to *The Urban Forestry Insider* at: **http://dnr.wi.gov/forestry/uf/resources/InsiderArchive.html#subscribe**.

Project Profile:

Historic Logging Community Plants More Trees

contributed by James Bishop, Public Affairs Manager
DNR Northern Region

May 15, 2008, was a banner day in Drummond, Wisconsin. The students and teachers of the Drummond Area School District, along with volunteers and members of the Bayfield County community, participated in Trees For Success **www.treesforsuccess.org** (also known as the National Tree Planting Campaign). The purpose of the campaign is to engage students and others in the community. In addition to planting trees, both foundations are working with educators to raise awareness about the many benefits trees bring to the environment and to a community's quality of life and to create a fun-filled educational experience for school children. By becoming involved in tree planting, the youngsters have an opportunity to take an active role in improving their communities and interact with the natural world, according to information on The Home Depot Foundation website, **http://corporate.homedepot.com/wps/portal/**.

Photo: Don Kissinger, WDNR

All of Drummond Area School District students wanted to be part of the May 15 Trees for Success event, but Sam Tuttle, the 4-year-old son of consulting forester Kelli Tuttle, may have stolen the event as he literally digs in with a spade taller than he is.

The Drummond district is in elite company. A total of 215 school districts sent applications to the National Arbor Day Foundation, and Drummond, a community with a long history of logging, was one of 16 school districts nationwide selected to participate in the program. The community of 1050-plus joins school districts in Honolulu, Hawaii; Atlanta, Georgia; Dallas, Texas; Los Angeles, California; Seattle, Washington; Albuquerque, New Mexico; Detroit, Michigan; Philadelphia, Pennsylvania; Long Island, New York; Memphis, Tennessee; Cheyenne, Wyoming; Wichita, Kansas; Kent, Ohio; Richmond, Virginia; and Oswego, Illinois, to be selected to participate in the national campaign.

The event in Drummond started with students, school administrators and others basking in the sunshine and listening to short presentations about the importance of trees. Featured speakers included Regional Urban Forestry Coordinator Don Kissinger **don.kissinger@wisconsin.gov** (who spoke about the value of trees and their uses to elementary school youngsters); DNR Regional Public Affairs Manager Jim Bishop **james.bishop@wisconsin.gov**; USDA Forest Service Ranger Spring Rosalies; and Jim Crandall, president of the Drummond Area School Board.

May 15 marked the official launch of Trees For Success. In Drummond, a single 15-gallon tree was planted. When the weather warms up a little more, another 49 trees will find a home on school grounds. In addition to the excitement of the event, each student, teacher and speaker received a T-shirt listing all of the US cities that planted trees on May 15.

The ceremony began at 9 AM, followed by a dedication ceremony. By 10:30, volunteers were pitching in to plant, mulch and water the new tree on the school grounds.

"Drummond sits amidst the vast forestlands of the Chequamegon–Nicolet National Forest," according to Bishop. "Yet the school campus has been devoid of trees up to this year."

That fact prompted Kelli Tuttle, a consultant forester and resident of Drummond, to contact the Arbor Day Foundation. (Kelli has two children who attend Drummond schools.)

"It was a beautiful morning in Drummond," Bishop said. "Even though no press showed up, it was a memorable event."

On June 15, 2007, Drummond residents—adults and students from this historic logging town—planted about twenty trees (a variety of species, some 10- to 12-feet tall). The community had received a Wisconsin Urban Forestry grant. The trees commemorated new town buildings and contributed to the creation of a mini-arboretum. Bishop, who was at that event as well said tree locations were mapped for location and future reference and use by the students.

Does your community or organization have an idea, project or information that may be beneficial to others? Please let your regional urban forestry coordinator know. We will print as many of these as we can. If you see ideas you like here, give the contact person a call. They may be able to help you in your urban forestry efforts.

The Idea Exchange…

compiled by Olivia Witthun, Urban Forestry Assistant
DNR Northeast Region

It's Dry—Please Water Your Trees

Minneapolis, Minnesota, has an aggressive campaign enlisting the residents' help in watering newly planted and young trees on the terraces. Most visible are the yard signs that say "It's Dry - Please Water Your Trees." Neighborhood groups helped strategically place the signs by new trees in highly visible areas. They remove them in the fall and save them for future use. Door hangers are given to residents with new terrace trees which include information about the new tree and how to care for it. A media kit complements the water-your-trees message. It contains press releases for newspapers, TV stations and radio. The forestry division's partnership with the fire department garnered a lot of press when a local TV news station did a story on how the fire department is helping water trees when they aren't busy fighting fires. The city's website and local cable access station were also helpful in distributing information urging residents to water their trees. The city provides free wood chips to residents and encourages their use as mulch to help retain moisture for the trees. During summer, pick-up day for recyclables is also known as water-your-trees day. Perhaps your community could implement one or several of these ideas to increase the survivability of your new and young trees. Info: Paul Domholt, Minneapolis Community Forestry Coordinator, 612-313-7732.

Photo: Minneapolis Forestry Department

Minneapolis Forestry reminds residents to water through a sign campaign.

Michigan Homeowners Replace Trees Lost to EAB

The ROOT (Restoration Of Our Trees) initiative provides Michigan homeowners reduced-cost replacement trees for ash lost to EAB. ROOT is a partnership between the Michigan DNR, DTE Energy Foundation, USDA Forest Service, MI Dept of Agriculture and the MI Governor's Office. The cost share program is subsidized half by the utility company and half by the homeowner. For $21 homeowners get their choice of six different tree species, all 5–7 gallon size. They order in advance through the MI DNR and picked-up the trees the following spring. Local partners such as community tree boards and county extension offices collect the trees from nurseries and deal with the logistics of the tree pick-up by homeowners. The program is well publicized via press releases. Info: www.michigan.gov/dnr/0,1607,7-153-10371_10402-185723--,00.html

Research Notes…

compiled by Al Zelaya, Urban Forestry Coordinator
DNR Southeast Region

Geospatial Methods Provide Timely and Comprehensive Urban Forest Information

by Kathleen T. Ward[1] and Gary R. Johnson[2]

The urban forest resource in the continental United States is estimated to contain 3.8 billion trees valued at 2.4 trillion USD. Over 50 percent of the urban forest is on residential land where monitoring and management activities are constrained by access limitations. Furthermore, urban land use patterns are continuously changing due to economic, social and environmental factors. Urban forest managers can apply geospatial tools to rapidly obtain and evaluate urban forest information in order to improve planning and management decisions.

Researchers Ward and Johnson discuss several geospatial methods that expand the urban forest manager's capability to acquire comprehensive spatial data which can be used to determine urban forest attributes, land cover, forest structure, forest health, species composition and condition, heat island effects, and carbon storage metrics. As the scope of geospatial data acquisition and analysis expands, the notion of urban forestry broadens from traditional street tree management to a more comprehensive system of urban ecosystem or urban natural resource management.

Geographic information systems (GIS) and global positioning systems (GPS) have been effectively used to spatially depict and analyze the urban forest. Remote sensing is another tool that allows analysis of the urban forest by utilizing aircraft or satellite-borne sensors which can identify features by the electromagnetic energy that is reflected or emitted from them. Integration of satellite and aerial imagery with GIS and ground sampling of vegetation characteristics is an ideal strategy for collecting suitable urban forest information. Emerging geospatial technologies include three-dimensional (3D) visualization, virtual reality, Internet product delivery and integrated disaster response.

Trees and Flooding

compiled by Cindy Casey, Urban Forestry Coordinator DNR West Central Region

Press Releases:

The National Arbor Day Foundation has some ready-made, tree-related press releases intended for use after a large storm. They can easily be customized for a flood situation. See www.arborday.org/media/stormrecovery/.

Artwork: Jim McEvoy

Reports and Fact Sheets:

Flood Damage to Trees. K. Coder, University of Georgia Extension Forest Resources–www.marshalltrees.com/upload/articles_files/art_65attached_file.pdf

Flooding and Its Effect on Trees. S. Bratkovich etal, USDA Forest Service, Northeastern Area–www.na.fs.fed.us/Spfo/pubs/n_resource/flood/table.htm

Flooding Effects on Urban and Community Trees. J. Lloyd & P. Weicherding, Illinois Natural History Society–www.inhs.uiuc.edu/inhsreports/jul-aug95/trees.html

Responses of Woody Plants to Flooding and Salinity. T. Kozlowski, UC Berkeley–www.heronpublishing.com/tp/monograph/kozlowski.pdf

Although geospatial tools have been proven effective, barriers still need to be addressed before they are more widely adopted by urban forest managers. Urban foresters may not have the skills needed to apply sophisticated geospatial technologies. Application specialists are often hired to use geospatial tools and develop baseline data and management plans for clients. However, clients often do not use the tools once the experts leave. Furthermore, detection limitations of geospatial tools and baseline data for tree vigor levels relative to species, age and environs need to be addressed. As these tools are refined, urban forest managers stand to benefit by obtaining comprehensive and timely resource data.

[1] USDA Forest Service, North Central Research Station, St. Paul, MN

[2] University of Minnesota, College of Natural Resources, Department of Forest Resources, St. Paul, MN

Reference: *Urban Forestry & Urban Greening,* Vol. 6, Pages 15–22. February 2007.

Continued from page 6

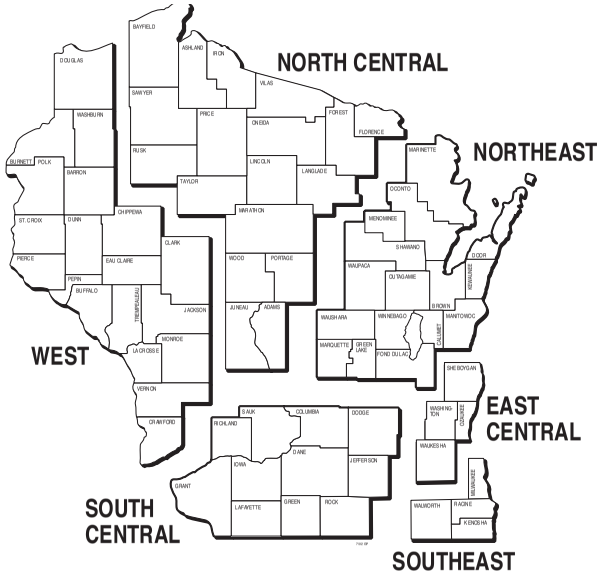
What Damaged This Tree?

Photo: Jeff Roe, WDNR

Answer: Drought stress! At this site, like many others, the athletic fields are thoroughly watered. Unfortunately, this newly planted tree cannot take advantage of the mobile sprinkler sitting inches from it. Due to lack of water, trees can exhibit symptoms such as wilted leaves, sparse foliage, early fall color and branch die-back.

Do you have pictures of tree damage others ought to know about? Send them to Kim Sebastian (address on page 16) and we'll print them here!

Wisconsin DNR Urban and Community Forestry Contacts



World Wide Web Site: http://dnr.wi.gov/forestry/uf/

West
Cindy Casey
Regional Urban Forestry Coord.
1300 West Clairemont Ave.
Box 4001
Eau Claire, WI 54702
Phone: (715) 839-1606
Fax: (715) 839-6076
e-mail:
Cynthia.Casey-Widstrand@Wisconsin.gov

North Central
Don Kissinger
Regional Urban Forestry Coord.
5301 Rib Mountain Drive
Wausau, WI 54401
Phone: (715) 359-5793
Fax: (715) 355-5253
e-mail: Don.Kissinger@Wisconsin.gov

South Central
Jeff Roe
Regional Urban Forestry Coord.
3911 Fish Hatchery Road
Fitchburg, WI 53711
Phone: (608) 275-3256
Fax: (608) 275-3338
e-mail: Jeffrey.Roe@Wisconsin.gov

State Coordinator
Dick Rideout
State Urban Forestry Coord.
101 S. Webster St.
PO Box 7921
Madison, WI 53707
Phone: (608) 267-0843
Fax: (608) 266-8576
e-mail: Richard.Rideout@Wisconsin.gov

Northeast
Tracy Salisbury
Regional Urban Forestry Coord.
2984 Shawano Ave.
PO Box 10448
Green Bay, WI 54307-0448
Phone: (920) 662-5450
Fax: (920) 662-5413
e-mail: Tracy.Salisbury@Wisconsin.gov

Southeast & East Central
Kim Sebastian
Regional Urban Forestry Coord.
2300 N. Martin Luther King Jr. Dr.
Milwaukee, WI 53212
Phone: (414) 263-8602
Fax: (414) 263-8483
e-mail: Kim.Sebastian@Wisconsin.gov

SERVICE TO PEOPLE AND THEIR RESOURCE
DIVISION OF FORESTRY
SINCE 1904

Wisconsin Urban & Community Forests
A Quarterly Newsletter of the Wisconsin Department of Natural Resources, Forestry Division

P.O. Box 7921, Madison WI 53707

Address Service requested

Presorted Standard
U.S. Postage
Paid
Madison, WI
Permit 906